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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,570	09/27/2001	Neil Leslie Kilpatrick	01P17904US	3074

7590 08/27/2003

Siemens Corporation
Intellectual Property Department
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EXAMINER	
ELKASSABGI, HEBA	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/965,570	KILPATRICK ET AL.	
	Examiner	Art Unit	
	Heba Elkassabgi	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The - *35 USC § 112 objection is withdrawn by the examiner in light of applicant's amendment to the claims.*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1,2,3,4,5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Prior Art and further in view of Field (U.S. Patent 1227414) and Hein et al. (U.S. Patent 4827597).

Applicants Prior Art discloses in the background a power generator having a stator and a rotor that is positioned adjacent the stator. The rotor, having rotor wedges, with a plurality of slots formed onto the rotor and a plurality of a rotor coils each positioned within the rotor slots. However APA does not disclose a rotor wedge with a hollow cavity and the hollow cavity being sloping inwardly.

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge

body (17) is elongate and substantially rigid (BB), wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a construction that may employ an advantage for the core slots where a tight fit is needed.

Hein illustrates in Figure 7, a wedge body (30) with at least a pair of side peripheries (FF), each sloping inwardly and upwardly from the plane of the extent of the substantially flat bottom surface (GG) of the wedge body (30), in order to provide an extension of the magnetic path across the entry the slot.

It would have been obvious to one of ordinary skill in the art to combine Applicants Prior Art with the reference of Field for the purpose of providing a constructing a rotor core to accompany a desired structural feature and the reference of Hein et al. in order to provide a wedge body slot openings that provides a magnetic path across.

In regards to Claim 1, the functional limitation that of the rotor wedge that " at least one hollow cavity is substantially evenly distributed about a neutral axis of stress applied to the wedge body when in use and so, that the neutral axis of stress of the wedge body having the hollow cavity is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the hollow cavity," has not been given patentable weight because it its narrative in form. In order to

be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claim 3, the functional limitation that of the rotor wedge being about the " the neutral axis of the stress of the wedge body having a plurality of hollow cavities is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the plurality of hollow cavities," has not been given patentable weight because it its narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claims 7, the angle being ranging from 5 to 45 degrees as disclosed, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a workable range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller, 105 USPQ 233.*

Claim Rejections - 35 USC § 103

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field (U.S. Patent 1227414).

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge body (17) is elongate and substantially rigid (BB), wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a construction that may employ an advantage for the core slots where a tight fit is needed.

In regards to Claim 8, the functional limitation that of the rotor wedge that " a neutral axis of stress of the wedge body having the hollow cavity is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the hollow cavity," has not been given patentable weight because it its narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

In regards to Claim 10, the functional limitation that of the rotor wedge being about the " the neutral axis of the stress of the wedge body having a plurality of hollow cavities is substantially the same neutral axis of stress of a wedge body having substantially the same shape as the wedge body without the plurality of hollow cavities," has not been given patentable weight because it its narrative in form. In order to be given patentable weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 USC 1123, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. In re fuller, 1929 C.D. 172; 388 O.G. 279.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Field (U.S. Patent 1227414) and Hein et al. (U.S. Patent 4827597).

Field discloses in Figure 6, a rotor wedge having a wedge body (17) and at least one substantially hollow cavity (AA) formed in the wedge body (17) that extends in a substantially longitudinal direction through a portion of the wedge portion. The wedge body (17) is elongate and substantially rigid (BB), wherein the wedge body (17) includes a substantially flat bottom (CC) surface and a substantially flat top surface (DD), the top surface having less surface area than the bottom surface, and wherein an imaginary vertical center line (EE) extending from the top surface to the bottom surface dividing the wedge body (17) into two half portions (AA1 and AA2), the two half portions (AA1 and AA2) being substantially mirror images of each other; for the purpose of having a

construction that may employ an advantage for the core slots where a tight fit is needed. However, field does not disclose the sloping sides.

Hein et al. illustrates in Figure 7, a wedge body (30) with at least a pair of side peripheries (FF), each sloping inwardly and upwardly from the plane of the extent of the substantially flat bottom surface (GG) of the wedge body (30), in order to provide an extension of the magnetic path across the entry the slot.

It would have been obvious to one of ordinary skill in the art to combine the reference of Field with Hein in order to provide a wedge body slot openings that provides a magnetic path across.

In regards to Claims 14, the angle being ranging from 5 to 45 degrees as disclosed, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a workable range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller, 105 USPQ 233.*

In regards to Claim 15 the material choice of the wedge body formed from a metal material would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a suitable material for the wedge body, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin, 125 USPQ 416.*

Response to Arguments

Applicant's arguments filed 12/18/2002 have been fully considered but they are not persuasive.

In response to applicant's argument that the manufacturing of the rotor slot wedges and stator slot wedges are designed and constructed for very different application requirements, this is irrelevant to the claimed invention. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The references of the Applicant's Prior Art, Field, and Hein teach a magnetic core not specifically that the wedge structure is specifically for a stator or a rotor. The essential teaching of reference of the Applicant's prior art is of a rotor wedge having a variety of shapes for improvement in slot tightening techniques of conventional wedges. Additionally, JP-08801083 application of Iwamatsu discloses that the core formed the same process for either a stator core or a rotor core. (See abstract).

The examiner would like to point out to the applicant that the hollow cavity structures of Figures 6-13 are to be strongly considered to be claimed fully, clearly, and concisely.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE

BURTON S. MULLINS
PRIMARY EXAMINER